### **Science**





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# Including figures in assignments that are to be submitted online

The module you are currently studying either requires or permits submission of your Tutor Marked Assignments (TMAs) online using the electronic TMA (eTMA) system. In addition some modules now require students to submit their End-of-Module assignment (EMA) in this way too. This guide provides some basic information about including figures in assignments that are to be submitted online; for example, how to create and include figures, save figures from the web and integrate graphics and tables from spreadsheet packages.

This guide is specifically about including figures in your eTMA. You can find information about preparing your TMA for submission using the eTMA system through your StudentHome page:

- Click on 'online TMA/ECA services'.
- Next click on 'Assessment handbook for undergraduate courses' under the 'Assessment' heading (or 'Assessment handbook for taught higher degrees' if you are studying a Masters module). Appendix 2 provides information about submitting assignments online.
- If you return to the 'online TMA/ECA services' page, you can get further information on submitting a dummy TMA00 by clicking on the 'show help with this section' link to the right of the 'Assessment' heading.
- The 'Help' tab at the top of StudentHome provides further help.

We strongly recommend that you submit a dummy TMA00 well in advance of submitting your first TMA to ensure file compatibility and also to make contact with your tutor.

## Including figures in an electronic file

There are three ways you can create an electronic version of your figure:

- If you have a scanner, you can draw your figure by hand then scan it to produce a jpeg file at low or medium resolution.
- Alternatively, you can photograph your hand-drawn figure using a digital camera (or other image capture device, e.g. a camera phone) at low resolution, transfer the image to your computer, then crop and resave it as a low-resolution jpeg file.
- If you already know how to use a drawing package, you can opt to create an electronic version of your figure directly.

You should note that the second method described above is the least effective for obtaining a good quality image, but if you choose to use this method, it is probably wise to photograph the figure from above and to use the flash. If you find the flash causes a glare that obscures the figure, turn it off and photograph your figure in a well lit room instead.

When submitting your assignment online, you must ensure that it does not exceed the maximum file size allowed. For most modules the maximum file size is 5 megabytes (MB), where 1MB is 1,000 kilobytes (KB). If your module allows a larger file size, your study materials will tell you this. To check the size of your

file, right click on the file icon and select **Properties**. The properties window will display the name and size of your file.

If you choose to insert your digitised figure into the body of your assignment answer, you must ensure that your assignment document is in a format which is compatible with Microsoft Word 97 – 2003. In practice this means a file with a file extension of .doc or .rtf. If you are using Word 2007/2010 (Windows Vista or Windows 7) you need to save in compatibility mode as the default file format is .docx, which cannot easily be read by previous versions of Word. To do this use Save as and choose 'Word 97- 2003 Document (\*.doc)'. You must also ensure that it contains all figures as jpeg files (with file extension .jpg) with the file size of the final document totalling less than 5MB. You should use the 'picture insert' tool in your word-processor, instead of copy and paste. This can usually be found in the Insert menu under Picture | From File.... If your module allows you to submit files other than .doc or .rtf files, you could also include your figure as a separate file (check your module website or with your tutor if you are unsure). If you do this you must submit your answers and figure together in one single zip file. Information about creating a zip file can be found on StudentHome (see above).

## Reducing the file size of assignment answers containing figures

If you digitise figures to insert into your assignment answers, such as by using a digital camera or scanner, you may find that your final TMA file is over 5MB in size. In this case you can try compressing the figure image to reduce the overall file size. You are strongly advised to make a backup of your work before trying the methods below, and to make sure your figures are legible after compression.

#### In Microsoft Word 2003:

- Right-click on the figure image in your file and select Format Picture...
- On the box that appears under the Picture tab click on the Compress...
- In most cases, you will be able to reduce the size of your file significantly just by checking the box next to delete cropped areas of pictures and selecting the option to apply to All pictures in document.
- Click OK, then Apply and Save your work to re-check the file size.

#### In Microsoft Word 2007/2010:

- Select the figure image: this enables the 'Picture Tools' tab which appears at the top of the screen
- Under Picture Tools, on the Format tab, in the Adjust Group, click
  Compress Pictures; this should reveal the Compress Pictures window
- In the Compress Pictures window, from the Apply to section, select All pictures in document, from the Change resolution section select Web/Screen and check both boxes in the Options section
- Save your work to re-check the file size.

#### In OpenOffice (StarOffice):

- Right-click on the figure image and select Save Graphics....This will allow you to re-save an image on your computer, which can help reduce its file size.
- Remove the original image from your answer, and use the Insert | Picture option to insert the new figure image in its place.
- Save your work to re-check the file size.

If you require further information you can refer to the Open University document 'Reducing the size of images in TMAs' which is available from StudentHome

- Click on the Help tab at the top of StudentHome
- Enter 'eTMA file too big' in search box

### Including figures from the Web

You can usually save an image (graphic or photograph) from a website by right clicking on it and then selecting Save Picture As. You can then manipulate the figure using a graphics package before inserting it into your assignment using the 'picture insert' tool as described above.

Note that some images on external websites are protected from people wishing to download them, e.g. by being covered with a 'dummy' graphic that is completely transparent, so that when you Save Picture As, all you get is an empty screen.

If you use images downloaded from the Web specifically for use in your assignment, it is acceptable to crop them, annotate them, etc., without asking the copyright holder's permission.

Any material that is not your own should always be fully referenced in your assignment.

## Integrating tables and charts created in spreadsheet packages

Packages such as OpenOffice and Microsoft Office allow you to include illustrations, tables of data and graphs in your word-processed documents.

Having manipulated data in a spreadsheet, you may then want to include a table of your data in your assignment. It is straightforward to copy sections of spreadsheets and to paste them into your assignment. To create a table in your assignment, simply highlight the relevant cells on your spreadsheet (including headings) and click on the Copy button (or use Edit|Copy, or the keyboard shortcut Ctrl+C), then click in your assignment where you want the table to appear and then click on Paste (or use Edit|Paste or the keyboard shortcut Ctrl+V). Your table may require some further formatting once it has been pasted in your assignment.

## Including a graphic that appears on your computer screen

You can include any graphic that appears on your screen as follows:

- Copy the screen to the clipboard (use the Print Screen on your keyboard to copy the whole screen; Alt+Print Screen to copy just the active window).
- Open the document that you want to insert the graphic into.
- Paste the contents of the clipboard into the drawing document using the
  Paste button (or Ctrl+P)
- Highlight the graphic and then use the Crop tool to remove unwanted parts.
- When you are happy with the result you can save the file in jpg format (using Save As) and then insert the figure using the picture insert tool.

If you are using Windows Vista or Windows 7, you can use the 'Snipping Tool' utility to copy any area of the computer screen to the clipboard. You can then either paste the image directly into your assignment, or save it as a jpeg file which can be imported into a graphics package for further editing.